Listing of Claims:

1. (Previously Presented) A laser apparatus comprising:

a laser oscillator;

an optical system for sampling a part of a laser beam emitted from the laser oscillator;

an electric signal generator for generating an electric signal that contains an energy fluctuation of the laser beam as a data using the part of the laser beam sampled;

a light amount adjuster for adjusting an energy of the laser beam emitted from the laser oscillator by changing a transmittance thereof; and

a signal processing unit for subjecting the electric signal to a signal processing to calculate a frequency, an amplitude, and a phase of the energy fluctuation of the laser beam.

2. (Previously Presented) A laser apparatus comprising:

a laser oscillator;

a light amount adjuster for adjusting an energy of an incident laser beam by changing a transmittance thereof;

a driver for controlling the transmittance of the light amount adjuster;

an entrance side optical system for sampling a part of the laser beam that enters the light amount adjuster;

a first electric signal generator for generating a first electric signal that contains as a data an energy fluctuation of the laser beam that enters the light amount adjuster using the part of the laser beam sampled by the entrance side optical system;

an exit side optical system for sampling a part of a laser beam of which the energy has been adjusted by the light amount adjuster;

a second electric signal generator for generating a second electric signal that contains as a data an energy fluctuation of the laser beam of which the energy has been adjusted by the light amount adjuster using the part of the laser beam sampled by the exit side optical system; and

a signal processing unit for subjecting the first electric signal and the second electric signal to a signal processing to grasp a state of the energy fluctuation of the laser beam that enters the light amount adjuster as well as a state of the energy fluctuation of the laser beam whose energy has been adjusted by the light amount adjuster.

3-16. (Canceled)

17. (Previously Presented) A laser apparatus according to claim 1, wherein the signal processing unit controls the transmittance such that a phase of the transmittance change in antiphase to the phase of the energy fluctuation of the laser beam and with an amplitude of the transmittance capable of reducing the amplitude of the energy fluctuation of the laser beam emitted from the laser oscillator, the control being made based on a phase difference between a phase of a signal that is in synchronization with an oscillation of the laser beam emitted from the laser oscillator and the phase calculated, on the energy ratio of the sampled laser beam to the laser beam emitted from the laser oscillator, and on the frequency and the amplitude calculated.

18. (Previously Presented) A laser apparatus according to claim 2, wherein the signal processing unit controls the driver such that a phase of the transmittance changes in antiphase to the phase of energy fluctuation of the laser beam that enters the light amount adjuster.

19. (Previously Presented) A laser apparatus comprising:

a laser oscillator;

an optical system for sampling a part of a laser beam emitted from the laser oscillator;

a sensor for receiving the sampled laser beam and converting the sampled laser beam to an electric signal;

a signal processing unit for processing the electric signal for calculating at least a frequency, an amplitude and a phase of an energy fluctuation of the laser beam;

an attenuator for attenuating a laser beam emitted from the laser oscillator by using the frequency, amplitude and the phase of the energy fluctuation of the laser beam calculated by the signal processing unit.

20. (Previously Presented) A laser apparatus comprising:

a laser oscillator;

an attenuator for attenuating a first laser beam emitted from the laser oscillator and generating a second laser beam;

a first optical system for sampling a part of the first laser beam;

a second optical system for sampling a part of the second laser beam;

a first optical sensor for receiving the sampled first laser beam and converting the sampled first laser beam to a first electric signal;

a second optical sensor for receiving the sampled second laser beam and converting the sampled second laser beam to a second electric signal;

a signal processing unit for processing the first electric signal and the second electric signal for calculating at least a frequency, an amplitude and a phase of an energy fluctuation of the first laser beam and at least a frequency, an amplitude and a phase of an energy fluctuation of the second laser beam; and

a driver for controlling a transmittance of the attenuator.